ABSTRACT

[0229] Techniques for minimizing coprocessor "starvation," and for effectively scheduling processing in a coprocessor for greater efficiency and power. A run list is provided allowing a coprocessor to switch from one task to the next, without waiting for CPU intervention. A method called "surface faulting" allows a coprocessor to fault at the beginning of a large task rather than somewhere in the middle of the task. DMA control instructions, namely a "fence," a "trap" and a "enable/disable context switching," can be inserted into a processing stream to cause a coprocessor to perform tasks that enhance coprocessor efficiency and power. These instructions can also be used to build high-level synchronization objects. Finally, a "flip" technique is described that can switch a base reference for a display from one location to another, thereby changing the entire display surface.